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Remarks:

Claims 1, 3, 8 and 10 have been amended and claims 14-18 have been withdrawn. Accordingly, claims 1-13 are currently pending for consideration.

I. Amendments:

Amended claim 1 now recites that the second step involves reacting the hydrophobised nitrogen-containing polymer obtained with a crosslinker to form a cationic nitrogen-containing wet strength resin in order to provide proper antecedent basis for the "wet strength resin formed." No new matter has been added.

Claim 3 was amended to clarify that the first step is performed as a vinyllog addition or alkylation reaction. Support can be found in the specification at page 4, lines 12-32. No new matter has been added.

Claim 8 was amended to put it in proper Markush format and claim 10 was amended to clarify that the paper wet strength agent is obtained by a method as defined in claim 9. Again, no new matter has been added.

II. The Invention:

The present invention relates to a method for preparing a wet strength agent that includes:

- a first step of reacting a nitrogen-containing polymer with a hydrophobic compound to form hydrophobic side-chain substituents on the polymer,
- a second step of reacting the hydrophobised nitrogen-containing polymer obtained with a crosslinker to form a cationic nitrogen-containing wet strength resin, and
- a third step that includes forming of particles by emulsion polymerisation of one or more ethylenically unsaturated monomers in the presence of the wet strength resin formed.

The invention also relates to a paper wet strength agent obtained by the method and to a paper wet strength resin that includes a wet strength resin comprising cationic

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nitrogen-containing polymers having hydrophobic saturated side-chain substituents and groups derived from a crosslinker; and polymeric particles.

III. Rejections:

Claims 1-13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly pointing out and distinctly claiming the subject matter which the applicant regards as the invention. The Applicants respectfully traverse.

Applicants respectfully submit that the specific rejections of claims 1, 3, 8 and 10, as discussed in the Office Action at page 2, are now moot based on the amendments to those claims.

Regarding the specific rejection of claim 9, Applicants respectfully submit that an unsaturated compound can have its unsaturated moiety reacted with the polymer so as to form a saturated hydrophobised side-chain when the unsaturated moiety is reacted. See, e.g., the specification on p.4, lines 27-29 showing an example where the vinyl (unsaturated) moiety is reacted with the polymer to produce a saturated hydrophobised side-chain.

Accordingly, it is respectfully requested that the rejections of claims 1-13 under 35 U.S.C. § 112 be withdrawn.

Claims 1, 2 and 4-12 stand rejected under 35 U.S.C. § 102(b), as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a), as being obvious over Muller et al. (US 5,314,721). The Applicants respectfully traverse.

Muller et al. concerns vinyl polymer dispersions obtainable by free radical polymerization of olefinically unsaturated monomers in the presence of cationic

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polyamidoamine which has been rendered hydrophobic and can be used as sizing agents for paper.

Muller et al. are silent on the provision of hydrophobic side-chain groups incorporated by reacting hydrophobic compounds with the polymer. Although Muller et al. disclose (at col. 4, lines 33-42) alkylation of secondary basic amino groups up to only 20 mol%, i.e., a small portion of the total secondary amino groups, Muller et al. are silent as to formation of hydrophobic side-chains on the polymer and enumerate solely alkylating groups of few carbon atoms which would not be substantially hydrophobic in nature.

Moreover, Muller et al. define the term "rendered hydrophobic" to mean a polyamidoamine which contains terminal long-chain aliphatic hydrocarbon radicals which have at least 7C atoms and are derived from the corresponding monocarboxylic acids (See col.2, lines 43-48). Hence, Applicants respectfully submit that Muller et al. do not disclose, teach or suggest the provision of hydrophobic side-chains, but, instead, teach away from the presently claimed invention by teaching that the polymer is rendered hydrophobic by having hydrophobic terminal long-chain groups. Consequently, it is submitted that there is no disclosure of particles by emulsion polymerisation in the presence of wet strength agents having hydrophobic side-chains.

Additionally, since independent claim 11 also recites that the cationic nitrogen-containing polymers have hydrophobic saturated side-chain substituents, for the reasons discussed above Applicants respectfully submit that claim 11 is not anticipated or obvious in view of Muller et al.

Accordingly, it is respectfully requested that the rejections of claims 1, 2 and 4-12 under 35 U.S.C. § 102(b), as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a), as being obvious over, Muller et al. be withdrawn.

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Claims 3 and 13 also stand rejected under 35 U.S.C. § 103(a), as being obvious over, Muller et al. Specifically, the Office Action contends that although Muller et al. do not specifically disclose the hydrophobic side-chain substituents recited in these claims, it would have been obvious, since Muller et al. disclose that the polyamidoamine can be alkylated with similar compounds. The Applicants respectfully disagree and traverse.

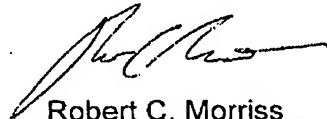
As claims 3 and 13 depend from claims 1 and 11, respectively, and include all the limitations of claims 1 and 11, it is respectfully submitted that these dependent claims are not obvious over Muller et al. for the reasons discussed with respect to claims 1 and 11 above.

Accordingly, it is respectfully requested that the rejection of claims 3 and 13 under 35 U.S.C. § 103(a), as being obvious over Muller et al., be withdrawn.

Conclusion:

In light of the foregoing, Applicants respectfully submit that the application as amended is now in proper form for allowance, which action is earnestly solicited. If the Examiner has any questions relating to this Amendment or to this application in general, it is respectfully requested that the Examiner contact Applicants' undersigned attorney at the telephone number provided below.

Respectfully submitted,



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